WHAT IS CLAIMED IS:

1. A receive method in a communication system, comprising the steps of:

receiving a receive signal converted into a carrier band;

generating a quadrature signal from said receive signal;

compensating orthogonality error and gain imbalance for said receive signal and said quadrature signal; and

converting said receive signal and said quadrature signal into first complex frequency band signal by first analytic sine wave, said first analytic sine wave being a complex signal including cosine wave as the real components and including sine wave as the imaginary components.

2. The receive method as claimed in claim 1, said step of compensating orthogonality error and gain imbalance comprising the steps of:

dividing said quadrature signal into divided quadrature signals;

assigning weight to each of said divided quadrature signals;

adding said receive signal to one of said divided quadrature signals.

3. The receive method as claimed in claim 1, said step of compensating orthogonality error and gain imbalance comprising the steps of:

assigning weight to each of said quadrature signal and said receive signal; and

adding said quadrature signal and said receive signal.

4. The receive method as claimed in claim 2, further comprising the step of:

converting, after said step of compensating, said receive signal and said quadrature signal into second complex frequency band signal by second analytic sine wave, said second analytic sine wave being a complex signal including cosine wave as the real components and including sine wave as the imaginary components.

5. The receive method as claimed in claim 4, wherein said weight is determined according to said second complex frequency band signal converted by said second analytic sine wave.

6. The receive method as claimed in claim 2, further comprising the step of:

estimating a desired signal on the basis of said first complex frequency band signal converted by said first analytic sine wave.

7. The receive method as claimed in claim 3, further comprising the step of:

estimating a desired signal on the basis of said first complex frequency band signal converted by said first analytic sine wave.

8. The receive method as claimed in claim 6, said weight is determined according to said desired signal and said first complex frequency band signal.

9. The receive method as claimed in claim 7, said weight is determined according to said desired signal and said first complex frequency band signal.

10. The receive method as claimed in claim 6, further comprising the steps of:

detecting a difference signal on the basis of said first complex frequency band signal, a predetermined signal and said desired signal;

determining said weight according to a complex frequency band signal and said difference signal.

11. The receive method as claimed in claim 7, further comprising the steps of:

detecting a difference signal on the basis of said first complex frequency band signal, a predetermined signal and said desired signal;

determining said weight according to a complex frequency band signal and said difference signal.

12. The receive method as claimed in claim 6, further comprising the steps of:

sampling said first complex frequency band signal at symbol rate;

detecting a difference signal according to a predetermined signal, a sampled signal and said desired signal; and

determining said weight according to a complex frequency band signal and said difference signal, and controlling said sampled signal to be a predetermined sampling phase.

13. The receive method as claimed in claim 7, further comprising the steps of:

sampling said first complex frequency band signal at symbol rate;

detecting a difference signal according to a predetermined signal, a sampled signal and said desired signal; and

determining said weight according to a complex frequency band signal and said difference

signal, and controlling said sampled signal to be a predetermined sampling phase.

14. A receive method in a communication system, comprising the steps of:

receiving a receive signal converted into a carrier band;

performing analog quasi-coherent detection on said receive signal and outputting in-phase and quadrature signals;

performing analog-to-digital conversion on said in-phase and quadrature signals;

dividing said in-phase and quadrature signals into first in-phase and quadrature signal and second in-phase and quadrature signal;

converting said first in-phase and quadrature signal into a complex baseband signal by a first analytic signal, and converting said second in-phase and quadrature signal into a complex baseband signal by a second analytic signal;

applying said first in-phase and quadrature signal to a first low-pass filter, and applying said second in-phase and quadrature signal to a second low-pass filter;

applying said first in-phase and quadrature signal passed through said first low-pass filter and said second in-phase and quadrature signal passed through said second low-pass filter to an adaptive interference canceler; and

removing interference components included in said first in-phase and quadrature signal and said second in-phase and quadrature signal.

15. The receive method as claimed in claim 14, wherein said adaptive interference canceler separates desired frequency band components and interference signal components, by using orthogonalization coefficients, from an input signal in which said desired frequency band components and said interference signal components are mixed.

16. The receive method as claimed in claim 15, wherein said adaptive interference canceler estimates said orthogonalization coefficients according to changes of orthogonality in said analog quasi-coherent detection.

17. A receiver in a communication system, comprising:

a receiving part which receives a receive signal converted into a carrier band;

a generating part which generates a quadrature signal from said receive signal;

a compensating part which compensates orthogonality error and gain imbalance for said receive signal and said quadrature signal; and

a first converting part which converts said receive signal and said quadrature signal into first complex frequency band signal by first analytic sine wave, said first analytic sine wave being a complex signal including cosine wave as the real components and including sine wave as the

imaginary components.

18. The receiver as claimed in claim 17, said compensating part comprising:

a dividing part which divides said quadrature signal into divided quadrature signals;

an assigning part which assigns weight to each of said divided quadrature signals;

an adding part which adds said receive signal to one of said divided quadrature signals.

19. The receiver as claimed in claim 17, said compensating part comprising:

an assigning part which assigns weight to each of said quadrature signal and said receive signal; and

an adding part which adds said quadrature signal and said receive signal.

20. The receiver as claimed in claim 18, further comprising:

a second converting part which converts said receive signal and said quadrature signal, which are compensated, into second complex frequency band signal by second analytic sine wave, said second analytic sine wave being a complex signal including cosine wave as the real components and including sine wave as the imaginary components.

21. The receiver as claimed in claim 20, further comprising a first control part which determines said weight according to output from said second converting part.

22. The receiver as claimed in claim 18, further comprising:

an estimating part which estimates a desired signal on the basis of output from said first converting part.

23. The receiver as claimed in claim 19, further comprising:

an estimating part which estimates a desired signal on the basis of output from said first converting part.

24. The receiver as claimed in claim 22, further comprising a second control part which determines said weight according to output from said estimating part and output from said first converting part.

25. The receiver as claimed in claim 23, further comprising a second control part which determines said weight according to output from said estimating part and output from said first converting part.

26. The receiver as claimed in claim 22, further comprising:

a detecting part which detects a difference signal on the basis of said first complex frequency band signal, a predetermined signal and said desired signal;

a determining part which determines said weight according to a complex frequency band signal and said difference signal.

27. The receiver as claimed in claim 23, further comprising:

a detecting part which detects a difference signal on the basis of said first complex frequency band signal, a predetermined signal and said desired signal;

a determining part which determines said weight according to a complex frequency band signal and said difference signal.

28. The receiver as claimed in claim 22, further comprising:

a sampling part which samples said first complex frequency band signal at symbol rate;

a detecting part which detects a difference signal according to a predetermined signal, a sampled signal and said desired signal; and

a determining part which determines said weight according to a complex frequency band signal and said difference signal, and controlling said sampled signal to be a predetermined sampling phase.

29. The receiver as claimed in claim 23, further comprising:

a sampling part which samples said first complex frequency band signal at symbol rate;

a detecting part which detects a difference signal according to a predetermined signal, a sampled signal and said desired signal; and

a determining part which determines said weight according to a complex frequency band signal and said difference signal, and controlling said sampled signal to be a predetermined sampling phase.

30. A receiver in a communication system, comprising:

a receiving part which receives a receive

signal converted into a carrier band;

an analog quasi-coherent detector which performs analog quasi-coherent detection on said receive signal and outputting in-phase and quadrature signals;

an analog-to-digital converter which performs analog-to-digital conversion on said in-phase and quadrature signals;

a dividing part which divides said in-phase and quadrature signals into first in-phase and quadrature signal and second in-phase and quadrature signal;

a first converting part which converts said first in-phase and quadrature signal into a complex baseband signal by a first analytic signal, and a second converting part which converts said second in-phase and quadrature signal into a complex baseband signal by a second analytic signal;

a first low-pass filter which removes high frequency band components from said first in-phase and quadrature signal to, and a second low-pass filter which removes high frequency band components from said second in-phase and quadrature signal;

an adaptive interference canceler which receives said first in-phase and quadrature signal passed through said first low-pass filter and said second in-phase and quadrature signal passed through said second low-pass filter, and removes interference components included in said first in-phase and quadrature signal and said second in-phase and quadrature signal.

31. The receiver as claimed in claim 30, said adaptive interference canceler including a part

which separates desired frequency band components and interference signal components, by using orthogonalization coefficients, from an input signal in which said desired frequency band components and said interference signal components are mixed.

32. The receiver as claimed in claim 31, said adaptive interference canceler including an adaptive controller which estimates said orthogonalization coefficients according to changes of orthogonality in said analog quasi-coherent detector.